

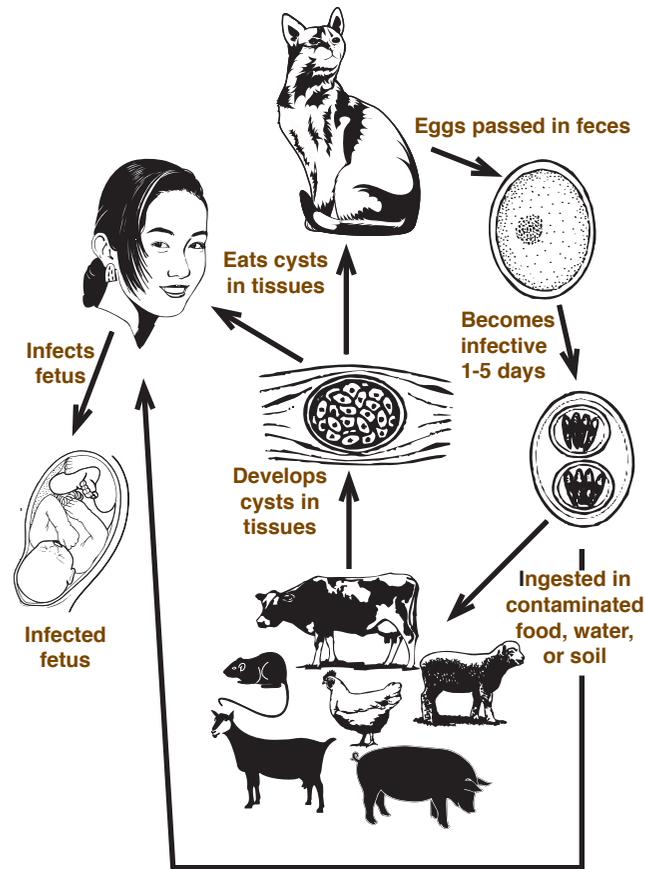
How to Avoid Infection with *T. gondii*

To prevent infection of cats:

- Keep cats indoors to prevent them from hunting and eating wild rodents and birds.
- Feed cats only commercially prepared food or well-cooked meat, never raw meat or raw meat products.

To prevent infection of humans:

- Wash hands thoroughly with soap and water after handling uncooked meat and before eating.
- Wash all cutting boards, sink tops, knives, and other utensils that come in contact with uncooked meat with soap and water.
- Cook meat thoroughly to an internal temperature of 160° F to destroy any parasites that might be present. Avoid tasting while cooking.
- Wash vegetables thoroughly before eating to remove soil that may be contaminated with cat feces.
- Dispose of cat litter every day before any eggs have time to become infective. Cat boxes and litter should be handled by someone other than a pregnant woman or those who are immunocompromised.
- Wear gloves while gardening, especially where cats may have defecated.
- Cover children's sandboxes when not in use to prevent cats from defecating in them.



Life cycle of *Toxoplasma gondii*



TOXOPLASMOSIS



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What Is Toxoplasmosis?

Toxoplasmosis is a disease caused by the protozoan parasite, *Toxoplasma gondii*. This disease is widespread in humans and many other warm-blooded animals. It is estimated that 20-30% of all Americans have been infected with the parasite. Cats, including wild species, are the **only** animals that harbor the adult parasite in their intestinal tract. These adult parasites produce oocysts (eggs) that are passed in the cat's feces. The oocysts must develop for 1 to 5 days in the environment before they become infective, and they can remain infective for up to 18 months in the soil and in the cat's feces. When other animals and humans become infected with this parasite, cysts are formed in their tissues (muscle, brain, etc.), but no adult parasites develop in their intestinal tract. Although animals other than cats do not shed oocysts in their feces, the infection may be transmitted when the tissues of an infected animal are eaten by another susceptible animal or person.

How Is Toxoplasmosis Transmitted to People?

The 3 main ways of spreading the parasite are:

- transplacental (from mother to unborn baby);
- ingestion (swallowing) of infective cysts in tissues; and
- ingestion of food or water contaminated with infective oocysts from cat feces.

The two major sources for the transmission of toxoplasmosis are meat and cat feces. By **handling raw meat** and then touching your mouth or **eating raw or undercooked meat**, a person may ingest parasites and develop the disease. Although any meat source may contain *T. gondii* tissue cysts, pork, veal, and

venison are common sources of infection in the United States. Other wild animals can also be sources of *T. gondii*, as can unprocessed goat's milk.

Infected cats usually shed oocysts in their feces for only 1 to 2 weeks during their lives. Cats develop immunity against the parasite, which usually prevents reinfection. Therefore, it is unlikely that the cat will ever shed oocysts again.

When oocysts are swallowed by other animals or humans, they hatch in the intestines and migrate to muscle and other tissues where they form cysts. These cysts remain in the host's tissues for the lifetime of that animal or person, which also produces immunity to reinfection.

What Are the Symptoms in People?

Most people infected with *T. gondii* are not aware of it. In those who do become ill, the illness may vary from flu-like symptoms to symptoms such as enlarged, painful lymph nodes, fever, or eye infection. Any organ may be involved and the condition may spread throughout the body.

When a previously non-infected woman becomes infected with *T. gondii* during pregnancy, the fetus (unborn baby) may become infected as well. Infection during the first half of pregnancy poses the greatest risk to the fetus. The unborn child may develop physical malformations, mental retardation, impaired vision, and deafness. Fetal infections may result in death.

Toxoplasmosis infections in most people typically resolve without treatment. For pregnant women or people with weakened immune systems, medications are available to treat toxoplasmosis.

Should I Get Rid of my Cat?

No, people should not be afraid to own a cat. Current data suggest that ownership of pet cats does not increase the risk of toxoplasmosis. However, cats that

are allowed to hunt wild rodents and birds are much more likely to become infected with *T. gondii* than cats that are kept indoors. Infected cats rarely shed oocysts in their feces more than once in a lifetime, after which transmission to humans is unlikely. Cats can be tested by a veterinarian for evidence of exposure to the toxoplasma organism. Cats may not develop antibodies to *T. gondii* during the oocyst-shedding period; therefore, a negative serologic response does not provide useful information regarding the ability of a particular cat to transmit toxoplasmosis. A cat with a positive blood test probably has already completed its episode of oocyst shedding. If a woman is pregnant or considering pregnancy, she can also be tested by her physician. By checking both the woman and the cat, proper recommendations can be made.

Toxoplasmosis and Pregnancy

Approximately 30% of the women of childbearing age in the U.S. have been exposed to *T. gondii* and are immune to toxoplasmosis. The remaining 70% are at risk of being infected with *T. gondii* during pregnancy. When a woman becomes infected with *T. gondii* during pregnancy, there is a 20 to 50% chance that her unborn child will be infected. It is estimated that one in every 3,000 pregnancies is complicated by toxoplasmosis. The unborn baby is very vulnerable to this disease, so pregnant women should take every precaution to prevent infection with the *T. gondii* parasite.

Toxoplasmosis and the Immunocompromised

People who are immunocompromised (have a reduced function of the immune system) are at greater risk for serious disease, including encephalitis (brain inflammation), resulting from infection with *T. gondii*. In most cases, disease results from reactivation of previous toxoplasmosis infections. Cats only shed this organism for a brief period once in their lifetime; therefore, the risk of becoming infected from your pet cat even if you are immunocompromised is very low.